

# Study suggests regular hot baths are associated with improving various risk factors for type 2 diabetes

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New research presented at this year's Annual Meeting of the European Association for the Study of Diabetes (EASD), held online this year, suggests regular heat exposure through a hot bath is associated with a beneficial effect on risk factors for type 2 diabetes, including glycated haemoglobin (HbA1c), a measure of blood sugar control. The study is by Dr. Hisayuki Katsuyama, Kohnodai Hospital, Ichikawa, Chiba, Japan, and colleagues.

Previous studies have suggested that heat therapy, such as use of saunas and hot-tub [bathing](#), improved [blood](#) sugar control and [body fat](#) percentage, and thus could be a therapeutic tool in the daily life for patients type 2 diabetes (T2D). However, there have been no studies to date using a large number of patients that have examined

effects of hot-tub bathing on metabolic parameters in patients with T2D in a real-world setting.

In Japan, most residences are fitted with a bath/hot-tub and bathing is a traditional and common life habit. Thus, the authors studied the effect of bathing in Japanese patients with T2D.

They obtained the information on the habits of bathing by using a questionnaire from 1,297 patients with type 2 diabetes, who regularly visited the outpatient unit of Kohnodai Hospital between October 2018 and March 2019, and studied the association of frequency of bathing with anthropometric measurements and blood test results. The patients were divided into three groups according to the frequency of bathing as follows; group 1: 4 or more baths per week; group 2: between 1 and 4 baths per week; group 3: less than 1 bath per week.

After various statistical analyses, the data showed the mean frequency of bathing was 4.2 times a week and the mean duration of bathing was 16 minutes. Decreased [body weight](#), body mass index (BMI), waist circumference, diastolic blood pressure and glycated haemoglobin were associated with increased bathing frequency (see table in abstract).

Further statistical analysis identified the frequency of bathing as a significant determinant of glycated haemoglobin after adjusting by age, sex, BMI, insulin use and the number of oral diabetes drugs, with significant differences between the groups. Group 1 (with the highest bathing) had a mean HbA1c of 7.10%, group 2 7.20% and group 3 7.36%.

The frequency of hot-tub bathing was also an independent determinant of BMI after adjusting sex and age, with group 1 having the lowest mean BMI

(25.5kg/m<sup>2</sup>) followed by group 2 (26.0) and group 3 (26.7). Reductions in [diastolic blood pressure](#) were also associated with increased bathing frequency after adjusting for age, sex and the number of blood pressure drugs.

The authors conclude: "Our results indicate that daily heat exposure through hot-tub bathing has beneficial influences on cardiovascular [risk factors](#) in patients with type 2 [diabetes](#)."

Provided by Diabetologia

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